



# Polk County & Municipalities' Comprehensive Water Supply Plan

Presented by

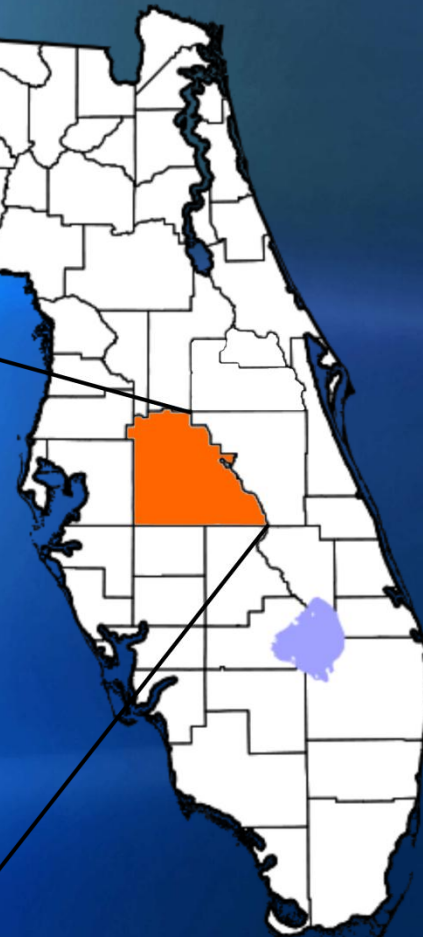
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# Introduction

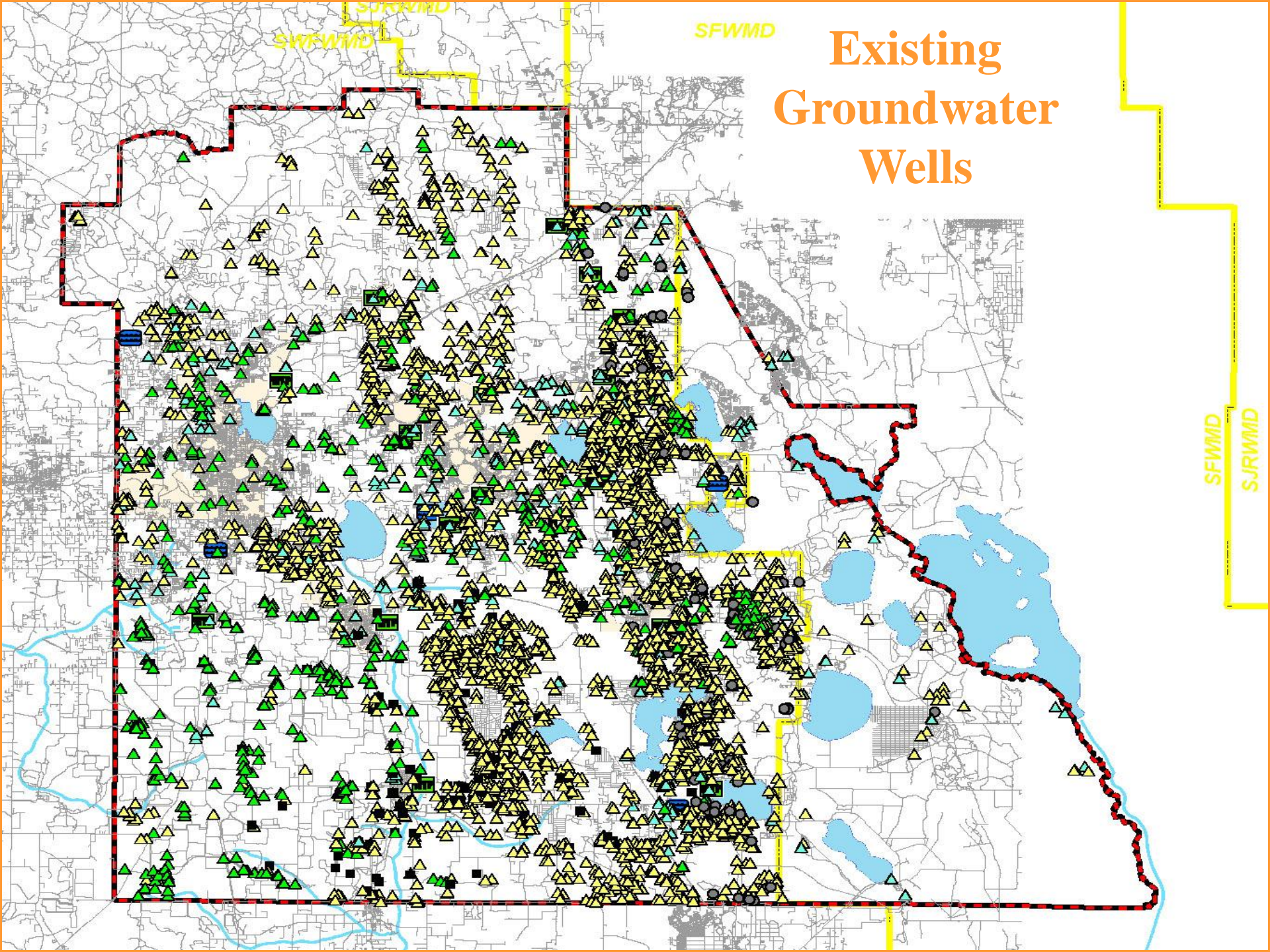
## Polk County, Florida

- Located in Central Florida
- 17 municipalities
- 6 individual service areas
- Conversion Source becoming





# Existing Groundwater Wells



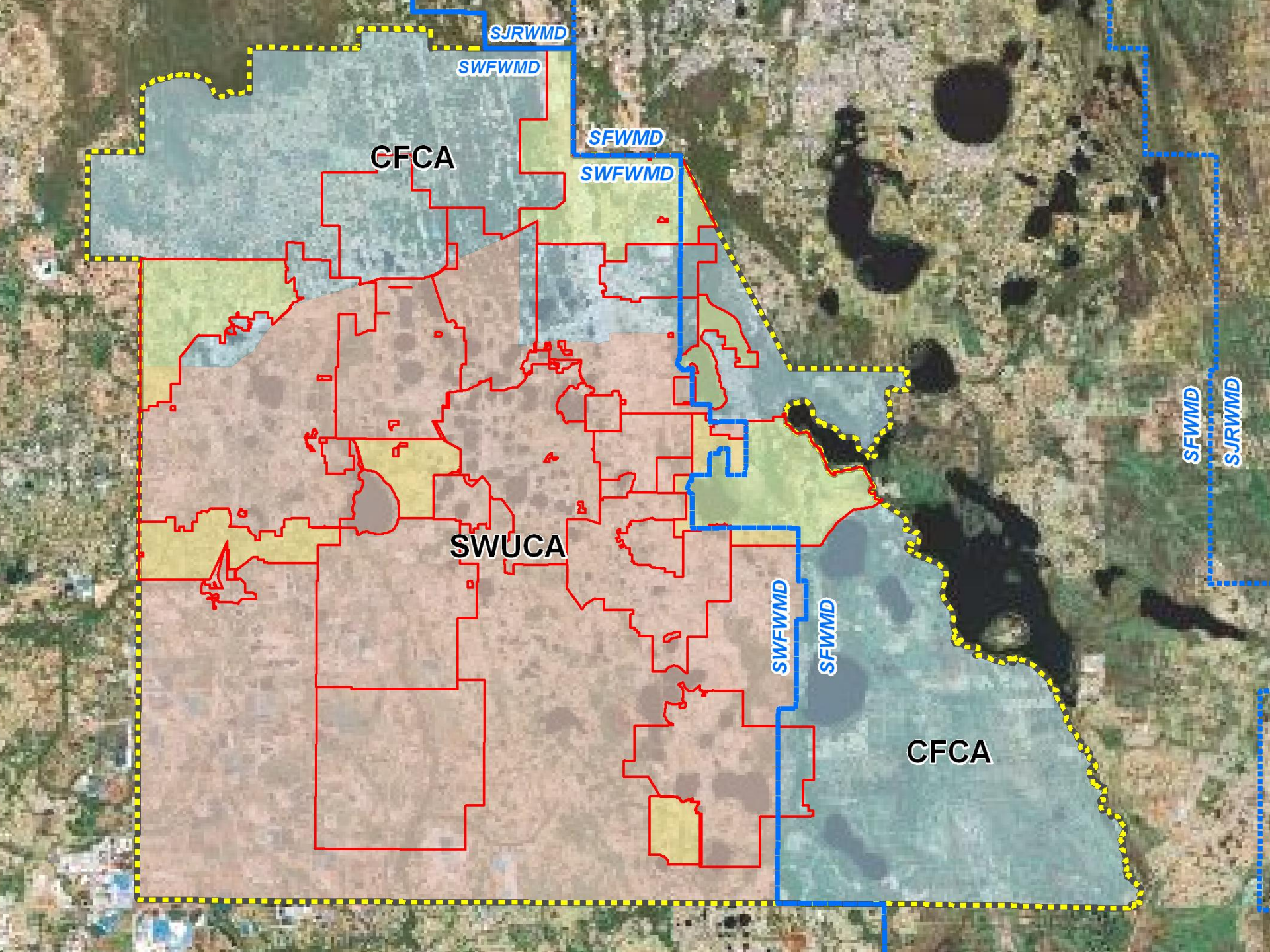


# Urgency and Results

- Conventional groundwater sources are predicted to be restricted in 2013
- CFCA and SWUCA currently limit new groundwater withdrawal
- Complex regional water supply projects may require up to 10-years for implementation
- Clear direction and decisive action on water supply projects is needed now
- The County recognized that they must define a course of action for Polk County regarding future water supply source(s)











# Investigations





# Initial Steps

- **Identify & Quantify Alternative Water Supplies**
  - **Develop Preliminary List of Options**
  - **Review of Existing Data:**
    - **Alternative Water Supplies**
    - **Polk County 10-Yr WSP**
    - **Flow Data**
    - **Yield Analysis**
  - **Preliminary Selection of Alternatives**
  - **Water Quality & Quantity Analysis**
  - **Permittability**



# Project Goals

- Provide Polk County and their municipalities specific direction and guidance on a course of action regarding future water supply sources
- Identify viable, real and permittable water supply options
- Evaluate new sources in partnership with the Polk County Municipalities and Water Management Districts
- Advance only flagship projects with appropriate partnerships





# Water Supply Planning Strategies

The County is considering all water resources and strategies to meet future demands:

- Surface Waters
- Groundwater
  - Land Use Transitions
  - Lower Floridan Aquifer
- Reclaimed Water
- Partnerships
- Conservation



# Long List Water Supply Projects

- This project considered all water resource categories to meet future demands:
  - Conservation (10-20 MGD)
  - Reclaimed Water (15-20 MGD)
  - Surface Waters (5-20 MGD)
  - Other Alternative Sources (10-30 MGD)
  - Groundwater (50-70 MGD)

**Total 90 – 160 MGD**





# The Matrix

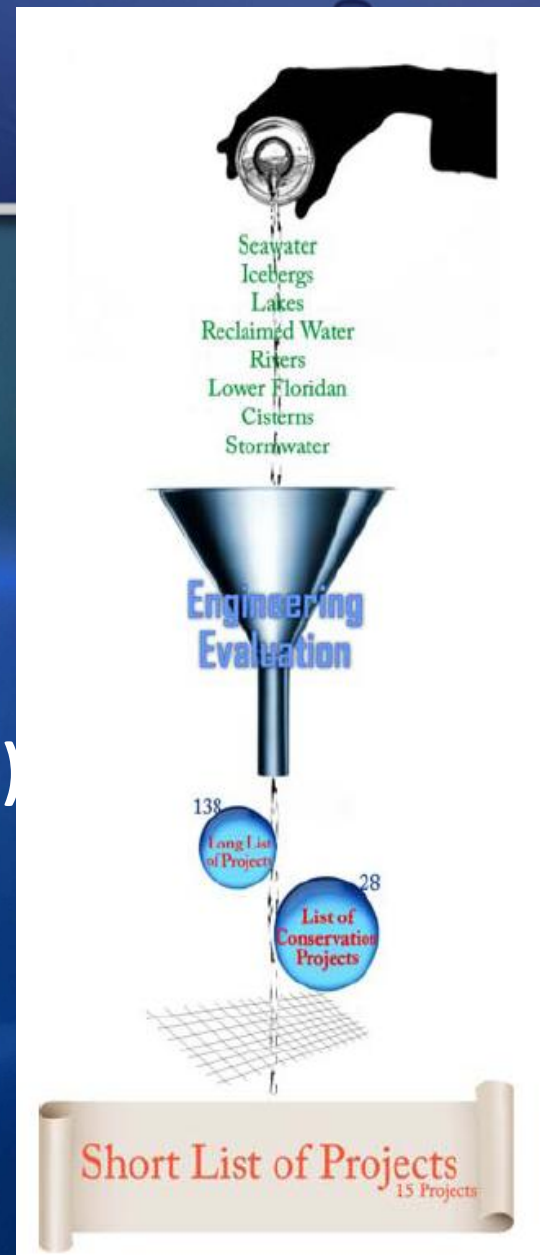
	<u>Weight</u>	<u>Score</u>
■ Yield	30%	300
■ Permittability	25%	250
■ Additional Benefit	10%	100
■ Cost Index	25%	250
■ <u>Implementation Time</u>	<u>10%</u>	<u>100</u>
Total	100%	1,000



# Short List Water Supply Projects

- This project considered all water resource categories to meet future demands:
  - Conservation (5-10 MGD)
  - Reclaimed Water (8-15 MGD)
  - Surface Waters (5-12 MGD)
  - Other Alternative Sources (10-20 MGD)
  - Groundwater (42-57 MGD)

Total 70 – 114 MGD





# AWS Participant Strategy

- Met with Municipalities and the Water Management Districts to strategize and quantify conservation programs and projects
- Met with the Municipalities to strategize and quantify reclaimed water options
- Worked with the Southwest Water Management District to develop standardized guidance on land use transition
- Met with the Water Management Districts to quantify potential water supplies from local surface waters
- Met with adjacent water supply authorities (ie: Tampa Bay Water, STOPR and the PRMRWSA) to investigate regional partnerships





# Water Supply Needs



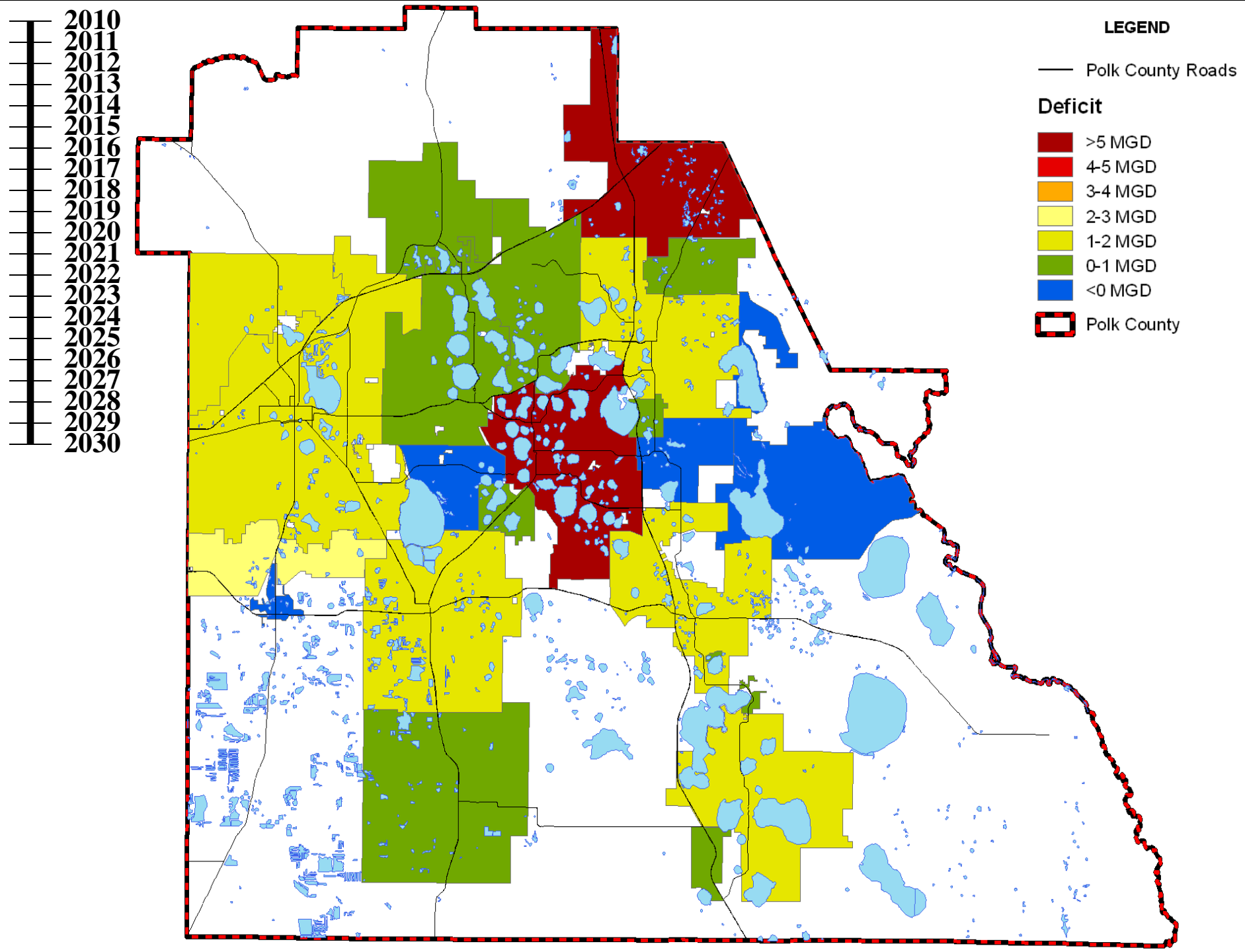


# SWFWMD Demand Projections

SERVICE AREAS	DEFICIT PERMITTED LESS 2030 (MGD)
City of Bartow (341)	-1.335
City of Fort Meade (645)	-0.140
Town of Lake Hamilton (2332)	-0.041
City of Winter Haven (4607)	-6.568
City of Lake Wales (4658)	-1.109
City of Lakeland (4912)	-1.248
Polk County / NERUSA & Oak Hill (6509,SFWMD)	-8.050
City of Davenport (5750)	-0.391
City of Frostproof (5870)	-1.638
Town of Dundee (5893)	
City of Mulberry (6124)	
Polk County / NWRUSA (6505)	-1.968
Polk County / SWRUSA (6506)	-2.141
Polk County / CRUSA (6507)	
Polk County / SERUSA (6508)	-0.482
City of Lake Alfred (6624)	-0.005
City of Eagle Lake (6920)	-0.137
City of Auburndale (7119)	-0.619
Polk County / ERUSA (8054)	
City of Polk City (8468)	-0.293
City of Haines City (8522)	-1.645
Village of Highland Park (9807)	-0.011

**Total = -27.82**









# Implementation Plan

# Potential Local Sources

## Countywide

Current WUP Capacity	110.907	mgd
Projected 2030 Demand <sup>1</sup>	137.215	mgd
Deficit (in 2030)	<b>-27.820</b>	mgd

Optional Categories	Estimated Quantity (mgd)	Estimated Range (mgd)
Conservation <sup>2</sup>	15.41 mgd	3.35 - 50.3
Reclaimed <sup>3</sup>	12.14 mgd	7.5 - 16.8
Land Use Transition <sup>4</sup>	27.68 mgd	9.23 - 55.4
Lower Floridan <sup>5</sup>	13.70 mgd	4.0 - 19.4
Regional Sources <sup>6</sup>	See Regional Table	
Estimated Optional Categories Subtotal	+68.929 mgd	
Surplus/Deficit with Optional Categories (2030)	<b>+41.109</b> mgd	





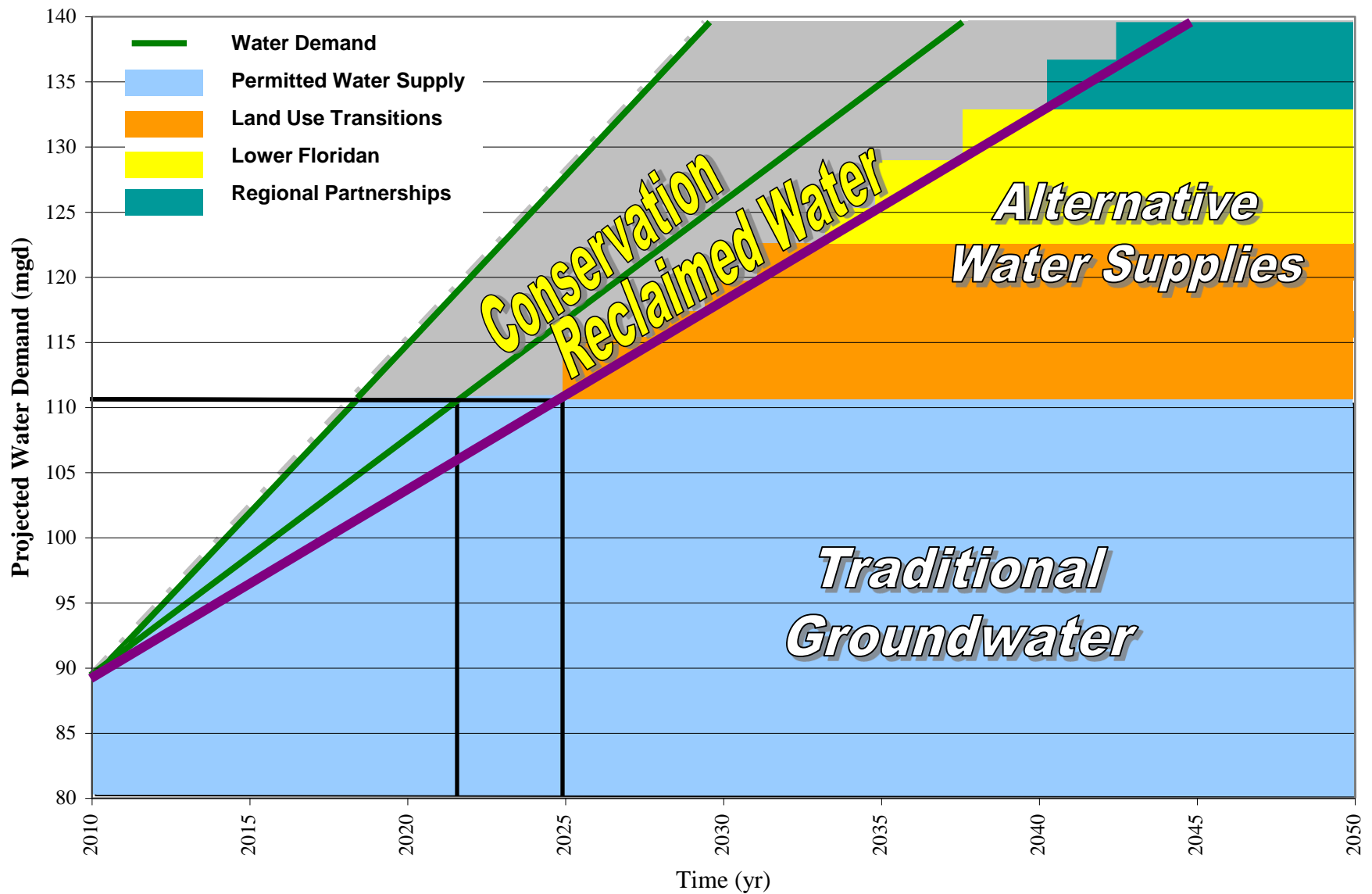
# Potential Regional Sources

## Regional Sources

Optional Categories	Estimated Quantity (mgd)
Tampa Bay Water	10
Peace River/Land Use Transition	11
SE Wellfield	15
STOPR	5

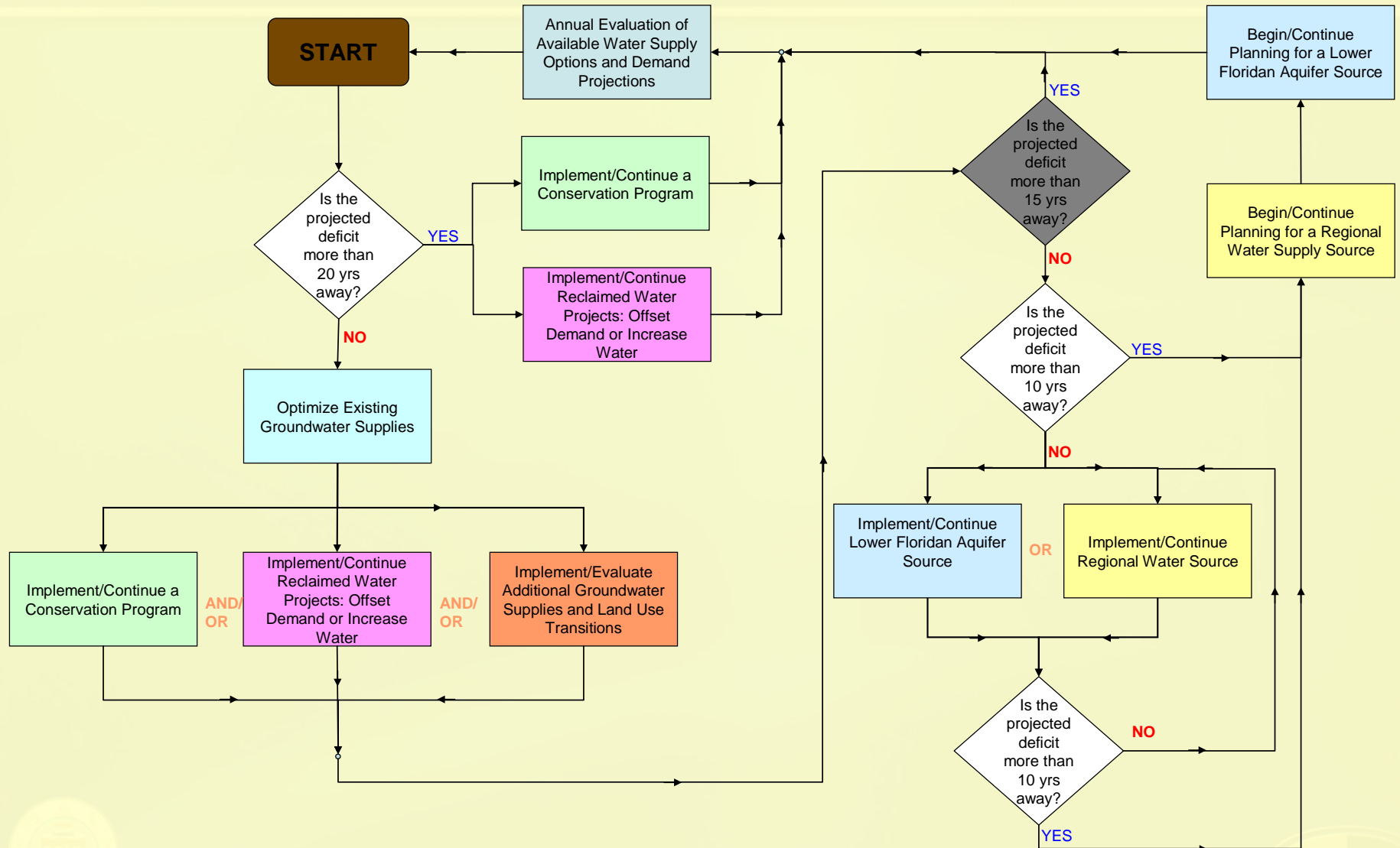


# Overall Implementation Plan

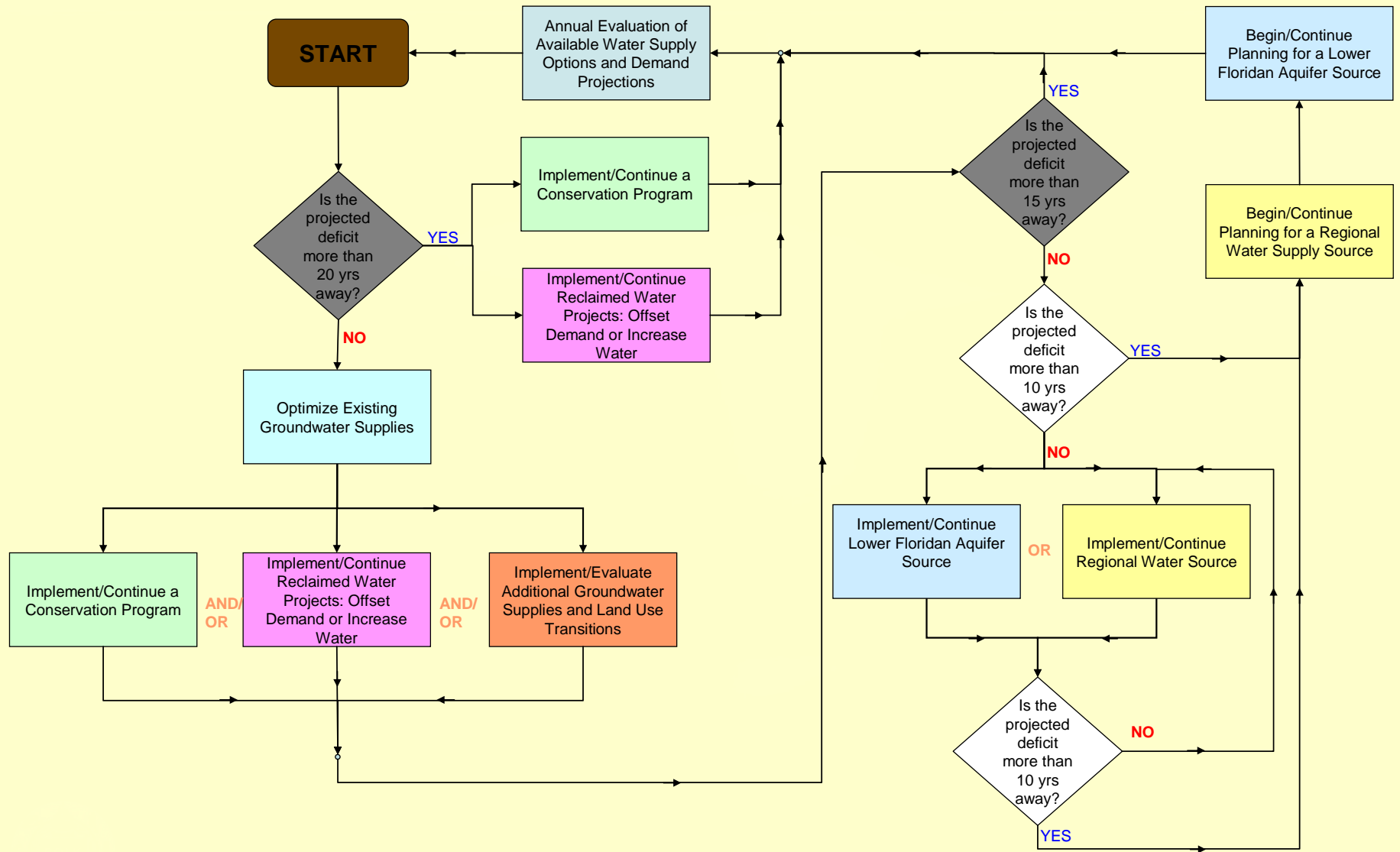




# 2009 Polk County Comprehensive Water Supply Plan

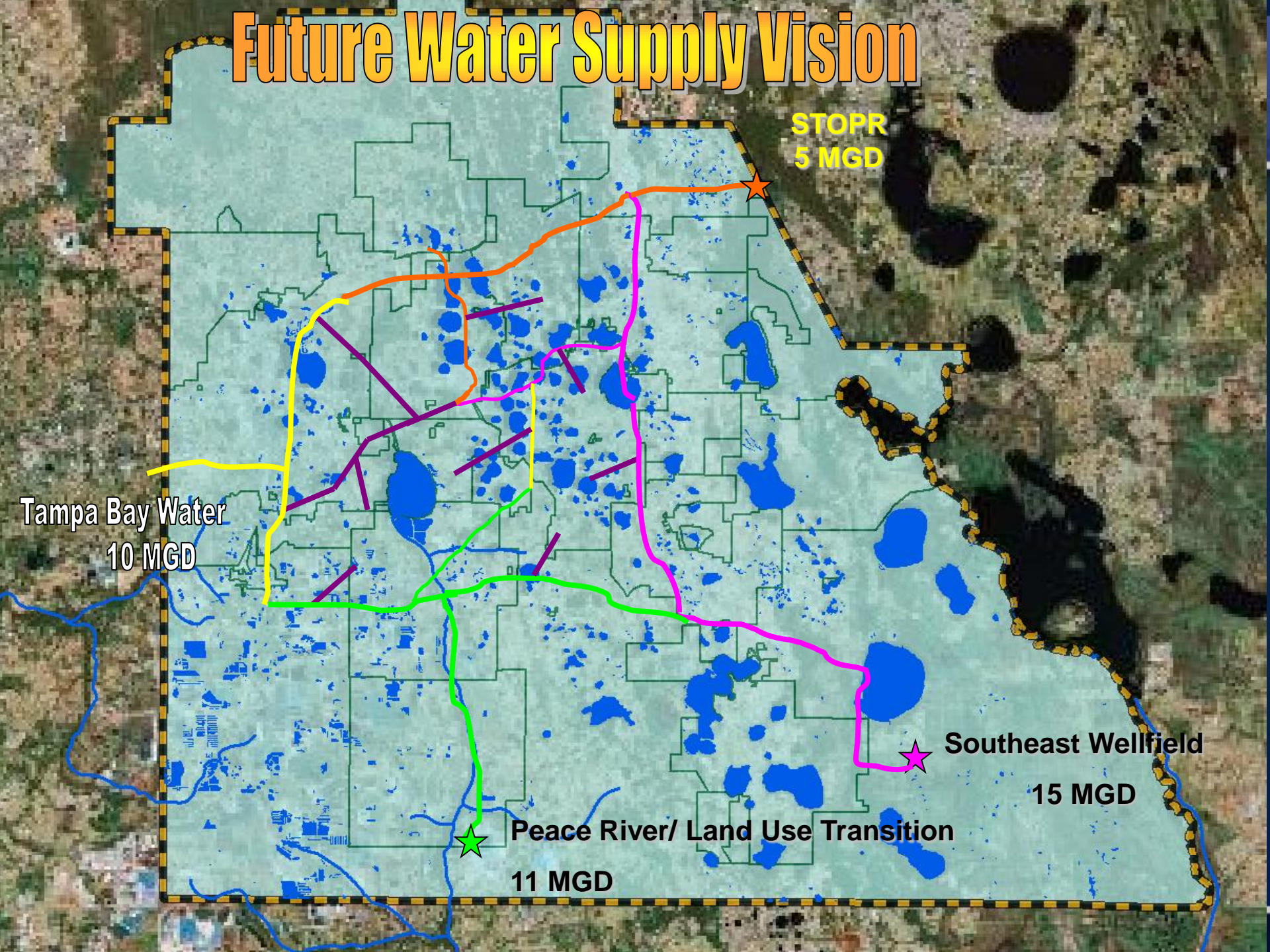


# 2009 Polk County Comprehensive Water Supply Plan





# Future Water Supply Vision





# Next Steps for Polk County

- Continue to be involved in State policy decisions, particularly the CFCFA revisions
- Annually update individual municipal plans
- Partner with municipalities to develop regional supplies
- Think regionally to solve long term deficits
- County-wide Conservation Program
  - Conservation Ordinance
  - Rain Sensor Program
- Planning of the transmission Back-bone





# Updates Since Completion



# WRAP Projects

## ■ Projects

- SE Wellfield
- NW Reclaimed Water Storage 80 MG Reservoir
- TECO
- Holly Hill LFA Testing and Reclaimed Water Storage Facility

## ■ Funding

- SWFWMD 33%
- WRAP 33%
- Polk County 33%





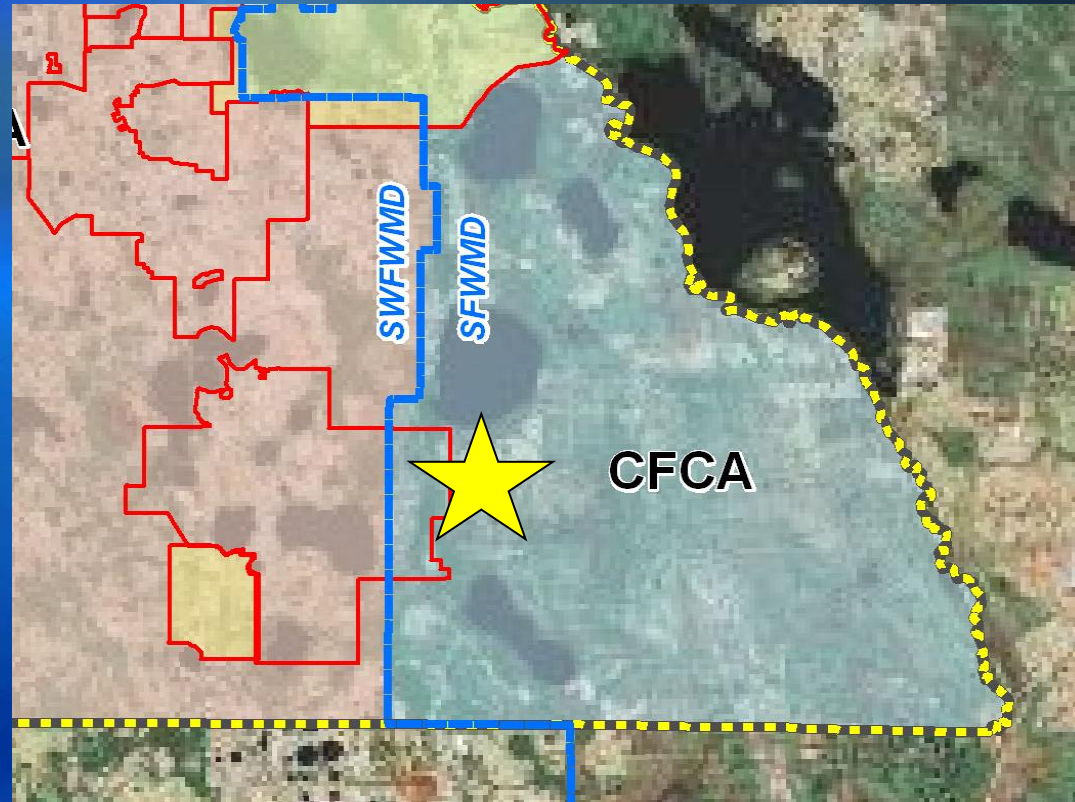
# SE Wellfield

## ■ Project

- \$3 million (SFWMD/PCU)
- Lower Floridan Aquifer Well
- Upper Floridan Aquifer Well
- Surficial Aquifer Well
- Monitoring Well

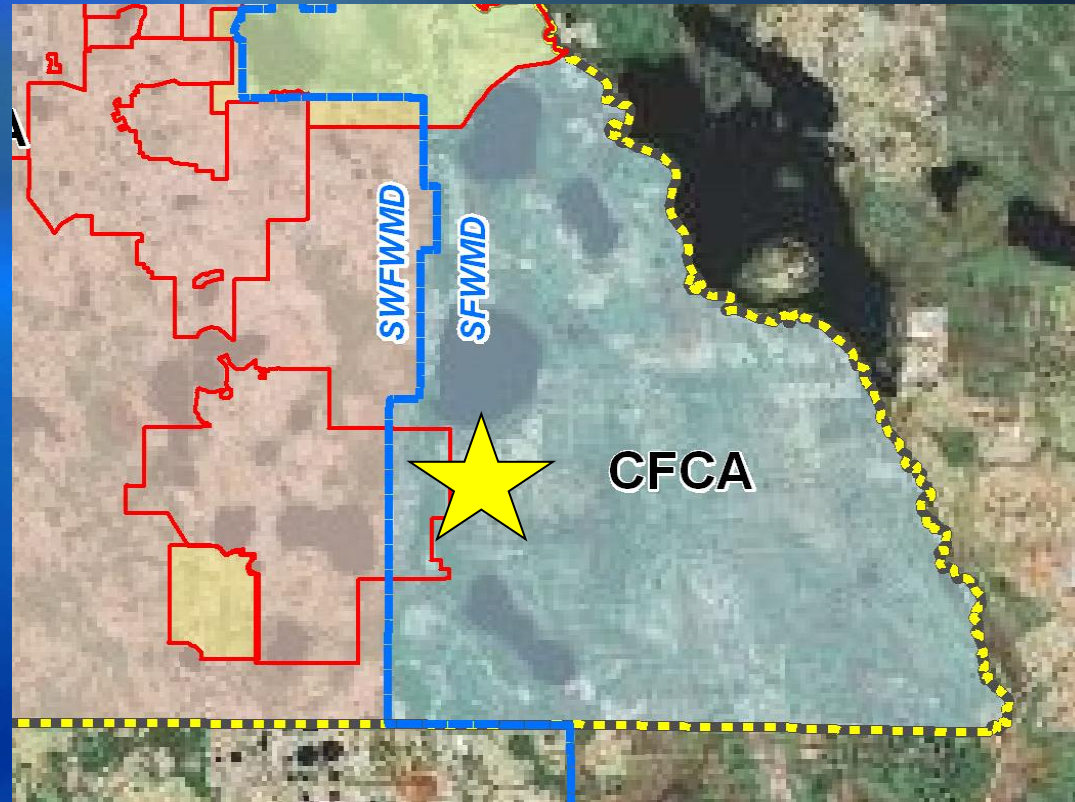
## ■ Testing

- APT
- Water Quality



# SE Wellfield Cont.

- Modeling Discrepancies
  - ECFT
  - DWRM
- What's next?





# Special Thanks to:

- Chris Sweazy, P.G., SFWMD
- Brian Armstrong, P.G. SWFWMD
- Audrie Goodwin, E.I., SWFWMD
- City Managers
- TAC Members





# *Any Questions?*



Local  
Governments



POLK COUNTY

